

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2172204****Date: 29/11/2018****Subject Name: Mineral Processing****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) What is mineral processing? How is it useful to mining industry?	03
	(b) Write the objectives of grinding.	04
	(c) Comparison of Jaw crusher and gyratory crusher	07
Q.2	(a) Explain: Kick's law.	03
	(b) Explain: sorting classifiers.	04
	(c) Write down the principal steps of mineral processing.	07
	OR	
	(c) Write in detail types of industrial screens.	07
Q.3	(a) Explain: mobile crushing unit.	03
	(b) Explain: black Jaw crusher.	04
	(c) Write the special method of grinding.	07
	OR	
Q.3	(a) Explain: sieve analysis	03
	(b) Advantage and disadvantage of jigs.	04
	(c) Working principle and operation of shaking table.	07
Q.4	(a) Explain : Hydrocyclones	03
	(b) Explain: collectors and frothers	04
	(c) Explain the Ball mill. Classify the various zones created in ball mill during grinding.	07
	OR	
Q.4	(a) Explain the electrostatic separator.	03
	(b) Discuss in brief about froth flotation.	04
	(c) Explain the mechanism of magnetic separator	07
Q.5	(a) Write a note on sampling errors.	03
	(b) Explain: (i) Thickening (ii) Filtration	04
	(c) Write note on processing of coal and explain via flow sheet of coal washing by heavy media separation.	07
	OR	
Q.5	(a) Explain: crushing, sizing and cleaning of coal.	03
	(b) Explain: Methods used in ore dressing	04
	(c) Write note on processing of copper and explain via flow sheet of copper washing by heavy media separation.	07
